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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/541,765 04/03/00 KLEE

M PHD 99.046

EXAMINER

MM91/0913

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THOMAS, F

ART UNIT

PAPER NUMBER

2831

DATE MAILED:

09/13/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/541,765

Examiner

Eric W Thomas

Applicant(s)

KLEE ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 August 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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Introduction:

The examiner acknowledges, as recommended in M.P.E.P. 707.04, the applicant's submission of the amendment dated 8/17/01. At this point claims 1-12 have been amended. Thus, claims 1-12 are pending in the instant application.

DETAILED ACTION

Claim Objections

Claim 2 is objected to because of the following informalities:

Claim 2, line 19 insert --,-- after "O₃".

Claim 2, line 20 insert --,-- after "O₃".

Claim 2, line 21 insert --,-- after "O₃".

Claim 2, line 22 insert --,-- after "O₃".

Claim 2, line 23 insert --,-- after "O₃".

Claim 2, line 24 insert --,-- after "O₃".

Claim 2, line 25, insert --,-- after "O₃".

Claim 5 line 3, the second occurrence of "electrode" is misspelled.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 2, & 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 2, line 25, the limitation, "as well as combinations of the compounds a) to f) with PbTiO_3 " is confusing.

Claim 8, line 2, "and/or" is confusing.

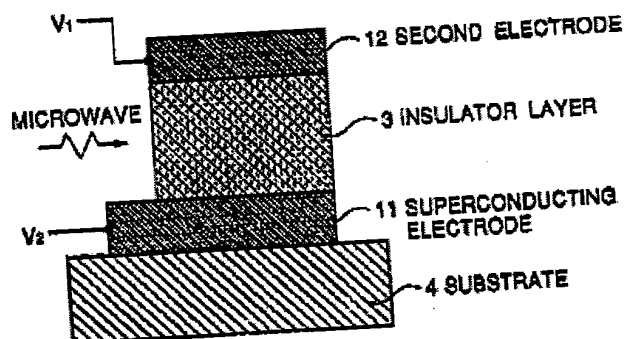
Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 6, 8-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Findikoglu et al (US 5,538,941).



Findikoglu et al. disclose in fig.1b, a capacitor comprising: a carrier substrate (4), a first electrode (11) comprising a superconductive metal oxide (see abstract) having a first surface disposed on a substrate, a dielectric layer (3) having a first surface

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disposed on a second surface of the first electrode, a second electrode (12) disposed on a second surface of the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

Regarding claim 2, the ferroelectric ceramic is SrTiO_3 (see col. 3 lines 28-36).

Regarding claim 6, the carrier substrate can be formed from a silicon (see col. 3 lines 1-5).

Regarding claim 8, Findikoglu et al. disclose the claimed invention. Although Findikoglu et al. do not expressly disclose "a protective layer of an organic material or a an inorganic material is laid over the entire surface of the component", but Findikoglu et al. inherently has a protective element surrounding the entire component (i.e. a housing) to protect the system from the external environment.

Regarding claim 9, Findikoglu et al. disclose in fig. 1b, a capacitor comprising: a carrier substrate (4), a first electrode (11) comprising a superconductive metal oxide (see abstract) having a first surface disposed on a substrate, a dielectric layer (3) having a first surface disposed on a second surface of the first electrode, a second electrode (12) disposed on a second surface of the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

The recitation "a voltage-controlled oscillator" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the

intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 10, Findikoglu et al. disclose a use of a ceramic passive component which comprises: a carrier substrate (4), a first electrode (11) comprising a superconductive metal oxide (see abstract) having a first surface disposed on a substrate, a dielectric layer (3) having a first surface disposed on a second surface of the first electrode, a second electrode (12) disposed on a second surface of the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

The recitation "a filter" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951).

Regarding claim 11, Findikoglu et al. disclose in fig. 1b, a delay line (see col. 2 lines 45-49) comprising: a carrier substrate (4), a first electrode (11) comprising a superconductive metal oxide (see abstract) having a first surface disposed on a substrate, a dielectric layer (3) having a first surface disposed on a second surface of

the first electrode, a second electrode (12) disposed on a second surface of the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

Regarding claim 12, Findikoglu et al. disclose a use of a ceramic passive component which comprises: a carrier substrate (4), a first electrode (11) comprising a superconductive metal oxide (see abstract) having a first surface disposed on a substrate, a dielectric layer (3) having a first surface disposed on a second surface of the first electrode, a second electrode (12) disposed on a second surface of the dielectric layer, and said dielectric comprises a ferroelectric ceramic material with a voltage dependent relative dielectric constant (see abstract & col. 3 lines 28-36).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 3-5, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Findikoglu et al (US 5,538,941).

Findikoglu et al. disclose the claimed invention except for one of the electrodes comprises at least first and second electrically conducting layers. It is well known in the art to form an electrode having two layers. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the first electrode from first and seconding layers, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 4, Findikoglu discloses the claimed invention (see above in claim 3), except for the first conducting layer being formed from Titanium. Titanium is a well known material used as electrodes in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to form the first electrically conducting layer from a titanium material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claim 5, Findikoglu discloses the claimed invention except for the second electrically conducting layer being formed from a metal. Metal is a well known material used as electrodes in the capacitor art. It would have been obvious to a person

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of ordinary skill in the art at the time the invention was made to form the second electrically conducting layer from a metal material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Regarding claim 7, Findikoglu et al disclose the claimed invention except for the dielectric being formed from multiple layers. Forming a dielectric from multiple layers is well known in the art. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the dielectric from multiple layers, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. St. Regis Paper Co. v. Bemis Co., 193 USPQ 8.

Response to Arguments

Applicant's arguments with respect to claims 3-5, 9-10 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments filed 8/17/01 have been fully considered but they are not persuasive.

Pg. 20-21 paragraphs 7, 1, the statement "the Findikoglu patent the electrode having a surface in the substrate is not an electrode comprising a metal or an alloy but us an electrode formed from an oxide superconductor" is confusing. The material used is a superconducting metal oxide (see abstract).

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6,100,773 – disclose a similar capacitor of the claimed invention of claims 1-12.

3,569,795 – disclose a capacitor having a dielectric that varies.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric W Thomas whose telephone number is (703) 305-0878. The examiner can normally be reached on Mon-Thur & alternating Friday 6:00-3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on 703-308-3682. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3432 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

ewt
August 27, 2001

A handwritten signature in black ink, appearing to read 'Anthony Dinkins', with a stylized, cursive script.

**ANTHONY DINKINS
PRIMARY EXAMINER**